

10/549,394

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Remarks

A. Basis for specification amendments (if any), claim amendments (if any) and new claims (if any).

Claim 6 has been amended to call out applicant's element 37a more precisely. In other words, claim 6 has been amended to recite:

- a straight sloping edge of which one end connects directly with an end of said arched convex edge that is opposite to said first projecting edge and
- of which the other end connects directly with said second projecting edge;
- and ~~at least one~~ a corner portion which is found in a ~~range that extends from said straight bottom edge via a connecting portion of~~ said second projecting edge ~~to~~ and said straight sloping edge.

Basis for such includes Figures 1 and 2.

Claim 6 has further been amended to call out the direction of projection of the first and second projecting edges as follows:

- a first projecting edge which connects with said first end of said straight bottom edge and projects obliquely outside from said first end of said straight bottom edge; and
- a second projecting edge which connects with the second end of said straight bottom edge and is composed of straight lines, with the second projecting edge projecting obliquely outside from said second end of said straight bottom edge.

Basis for such includes original claim 1 and Figures 1 and 2.

Dependent claim 8 has been amended so as to be

{18450.DOC} (Amendment After Final--page 9 of 20)

10/549,394

consistent with the amendment made to base claim 6 as to the corner portion. Basis for the amendments to dependent claim 8 includes claim 8 itself and Figures 1 and 2.

B. The Office Action

B.1. Section 1 of the Office Action

In section 1 of the Office Action, it was indicated that the amendment filed 10/12/06 has been entered.

B.2. Section 2 of the Office Action

In section 2 of the Office Action, it was stated that the first sentence of the disclosure must disclose all priority documents, application numbers and publication numbers. This formal amendment has been made.

B.3. Section 3 of the Office Action

In section 3 of the Office Action, it was stated that the Examiner is making an inquiry to claims 6-11 as to whether the applicant is claiming the subcombination of a sealing material as claimed in the preamble or the combination of an ant groove and sealing material. It was stated that for the purposes of examination, the Examiner is interpreting the claims to be claiming only the subcombination of just a sealing material. The Examiner is correct. Thus, it is respectfully believed that no correction is required.

B.4. Section 4 of the Office Action

In section 4 of the Office Action, claim 8 was objected to on the ground that "said corner portion" should be changed to --said at least one corner portion--.

{18450.DOC} (Amendment After Final--page 10 of 20)

10/549,394

As to such, it should be noted that base claim 6 has been amended to delete reference to "at least one." Further, dependent claim 8 has been amended so as to be consistent with claim 6.

B.5. Sections 5 and 6 of the Office Action

In section 5 of the Office Action, claim 6 is rejected under 35 U.S.C. 102(b) as being anticipated by Frisch (US Patent No. 5,513,674). (Also, although no formal rejections were made, it is believed that claims 7-11, 13 and 14 are also being rejected under 35 U.S.C. 102(b) as being anticipated by Frisch. Please note that claims 13 and 14 are independent claims and are not rejected formally at any place in the Office Action.)

In section 6 of the Office Action, claim 12 is rejected under 35 U.S.C. 102(b) as being anticipated by Dick (US Patent No. 2,438,153). It should be noted that claim 12 is dependent upon base claim 6 and thus, to consider this rejection, one must consider the combination of claims 6 and 12.

B.5.a. First claimed difference between claim 6 and each of Frisch and Dick

This first claimed difference relates to where the claimed straight sloping edge connects to the claimed second projecting edge. In the specification, this claimed location is element 37a or corner portion 37a. In reviewing the discussion below, it is noted that the straight sloping edge must be 1) straight and 2) sloping. Further in reviewing the discussion below, it is noted that the second projecting edge must be 1) composed of 2) straight lines. (And, as noted below, by "composed of" applicant means a closed expression as in "consists of.")

(18450.DOC) (Amendment After Final--page 11 of 20)

10/549,394

B.5.a.i. Frisch and Edges G and C

Please see the Examiner's Attachment A. Here the claimed straight sloping edge is represented by the character G. Here too the claimed second projecting edge is marked by character C.

Please see Applicant's Attachment A where the Frisch embodiment is shown. Edge G is marked. Applicant has further marked points G1 and G2 to illustrate where edge G must begin and end. Edge C is also marked. Applicant has further marked points C1 and C2 to illustrate where edge C must begin and end. It will be noted that points G2 and C2 do not fall on the same point.

Please see Applicant's Attachment A where applicant's embodiment is shown. Here it will be noted that points G2 and C2 do fall on the same point.

B.5.b.ii. Dick and Edges S and T

Please see the Examiner's Attachment B. Here the claimed straight sloping edge is represented by the character S and the claimed second projecting edge is marked with the character T.

Please see Applicant's Attachment B where the Dick embodiment is shown. Edge S is marked. Applicant has further marked points S1 and S2 to illustrate where edge S must begin and end. Edge T is also marked. Applicant has further marked points T1 and T2 to illustrate where edge T must begin and end. It will be noted that points S2 and T2 do not fall on the same point. Instead, applicant has marked edge E3, shown between points S2 and T2, which is a curved (not straight) edge.

{18450.DOC} (Amendment After Final--page 12 of 20)

10/549,394

Please see Applicant's Attachment B where applicant's embodiment is shown. Here it will be noted that points S2 and T2 do fall on the same point.

B.5.c.iii. Edges G, C, S and T and claim language, including present claim amendments

The G2/C2 location in Applicant's Attachment A and the S2/T2 location in Applicant's Attachment B are found as reference number 37a in the specification. This corner portion is now being clearly claimed by the following present amendments to claim 6:

- a straight sloping edge of which one end connects directly with an end of said arched convex edge that is opposite to said first projecting edge and
- of which the other end connects directly with said second projecting edge;
- and ~~at least one~~ a corner portion which is found in a range that ~~extends from said straight bottom edge via a connecting portion of~~ said second projecting edge ~~to~~ and said straight sloping edge.

It is further noted that claim 6 makes the following requirement:

- a second projecting edge which connects with the second end of said straight bottom edge and is composed of straight lines

Edge C (and Edge T) must be composed of straight lines. Applicants chose the term "compose." Applicant did not choose the term "comprise." Nor did applicants choose the term "include." "Compose" means "to make up the constituent parts of." Please see Applicant's Attachment D. Please also see MPEP 2111.03. Thus edge C must begin at point C1

{18450.DOC} (Amendment After Final--page 13 of 20)

10/549,394

and terminate at point C2 (and edge T must begin at point T1 and terminate at point T2).

B.5.d.iv. The technical significance of the corner portion represented by G2/C2 or S2/T2 or 37a

The technical significance of the formation of the corner portion 37a by two straight edges 35 (36), 38 in the invention of claim 6 of the present application is as follows:

(1) In the present invention, both "the second projecting edge 35 (36)" and "the sloping edge 38" are "straight edges," and the connecting point 37a between these two straight edges 35 (36), 38 is the "corner portion." This is the most important feature, by which the following functions and effects are produced.

(2) The sealing material fitted in an ant groove formed in one of the members is not pressed from the upside by the other member when both members are not jointed together. Therefore, on such an occasion, it is necessary that the sealing material does not fall off the ant groove. If the sealing material is thickened, the falling off is prevented, whereas it becomes difficult to fit this thick sealing material into the ant groove.

(3) On that point, as to the claimed sealing material, since both "the second projecting edge 35 (36)" and "the sloping edge 38" are straight edges" and since the connecting point 37a between these two straight edges 35 (36), 38 is the "corner portion," this corner portion 37a makes contacts with a side edge of the ant groove when the sealing material threatens to fall off the ant groove. As a result of this contact, the corner portion 37a threatens to cave in by pressing, but a repulsive force (face pressure) is generated at this corner portion 37a because the sealing

{18450.DOC} (Amendment After Final--page 14 of 20)

10/549,394

material is made of an elastic material. As to the distribution of this face pressure, if the sectional shape of the contact portion of the sealing material is a curved shape (circular arc shape) as in the prior art sealing material disclosed in the cited reference 1 or 2, then the face pressure distribution only draws a gentle curve as shown by a single-dot chain line in Fig. 6 attached to the present application specification. In contrast, if the above sectional shape is defined as the "corner portion" formed at the connecting point between the two straight edges as in the claimed sealing material, then the face pressure distribution comes to have a sharp-pointed peak, namely, a peak top P1 as shown in Fig. 6 attached to the present application specification. As a result, even if the face pressure (peak height) at the connecting point (corner portion 37a) is the same as the peak height of the single-dot chain line distribution, the peak shape is sharp-pointed, so that the sealing material is prevented from falling off.

(4) The "corner portion" recognized by the Examiner, namely, the corner portion 37c formed at the connecting portion between "the straight bottom edge 34" and the "second projecting edge 35," does not at all have the function such as of the above corner portion 37a, namely, the function of making the peak top P1.

(5) Both of the cited references of Frisch and Dick fail to disclose or suggest that both "the second projecting edge 35 (36)" and "the sloping edge 38" are "straight edges" and that the connecting point 37a between these two straight edges 35 (36), 38 is the "corner portion."

{18450.DOC} {Amendment After Final--page 15 of 20}

10/549,394

B.5.a.v. Summary of first claimed difference

The corner portion is where the straight sloping edge and second projecting edge meet. The second projecting edge is composed of (consists of) straight edges. Neither Frisch nor Dick can meet such claimed requirements. Therefore, on the basis of this first difference, neither Frisch nor Dick can anticipate or render obvious independent claim 6.

B.5.b. Second and third claimed differences between claim 6 and each of Frisch and Dick

The second and third claimed differences relate to how the straight bottom edge connects to the first and second projecting edges.

B.5.b.i. Edges B and C of Frisch in relation to edge A of Frisch

Please see the Examiner's Attachment A where edges A, B and C are marked as the straight bottom edge, first projecting edge and second projecting edge respectively.

Please see Applicant's Attachment A where edges A, B and C are shown. However, as to the Frisch embodiment, applicant has also marked edges P1 and P2, which stand for perpendicular edges P1 and P2. These perpendicular edges are perpendicular to the straight bottom edge A.

B.5.b.ii. Edges V and T of Dick in relation to edge Z of Frisch

Please see the Examiner's Attachment B where edges Z, V and T are marked as the straight bottom edge, first projecting edge and second projecting edge respectively. It will be noted that edges V and T project inwardly or in the inside direction relative to straight bottom edge Z.

{18450.DOC} (Amendment After Final--page 16 of 20)

10/549,394

B.5.b.iii. Edges A, B and C (or edges Z, V and T) and claim language, including present claim amendments

Applicant has amended independent claim 6 as follows:

- a first projecting edge which connects with said first end of said straight bottom edge and projects obliquely outside from said first end of said straight bottom edge; and
- a second projecting edge which connects with the second end of said straight bottom edge and is composed of straight lines, with the second projecting edge projecting obliquely outside from said second end of said straight bottom edge.

In contrast to the claimed language of independent claim 6, the Frisch embodiment has a first edge P1 that is perpendicular to the first end H of the straight bottom edge A and also has a second edge P2 that is perpendicular to the second end I of the straight bottom edge A. It should be noted that there is a specific meaning for the term "obliquely." "Obliquely" means neither perpendicular nor parallel to a given line or surface; slanting; sloping. Please see Applicant's Attachment C.

In contrast to the claimed language of independent claim 6, the Dick embodiment has edges V and T that project obliquely in the inside direction relative to the ends of straight bottom edge Z.

Therefore, on the basis of these second and third differences, neither Frisch nor Dick can anticipate independent claim 6.

B.5.b.iv. Summary of second and third differences

Frisch shows perpendicular edges P1 and P2. Dick shows edges V and T that project inwardly. Independent claim 6

{18450.DOC} (Amendment, After Final--page 17 of 20)

10/549,394

claims edges that project obliquely outside. "Oblique" excludes a perpendicular arrangement. Therefore, neither Frisch nor Dick can anticipate nor render obvious the requirements of claim 6.

B.5.c. Independent claim 13

Independent claim 13 includes the following limitations:

- a second projecting edge which connects with the second end of said straight bottom edge and is composed of straight lines, and
- a straight sloping edge of which one end connects with an end of said arched convex edge that is opposite to said first projecting edge and of which the other end connects with said second projecting edge.

It is respectfully submitted that independent claim 13 is allowable over each of Frisch and Dick on the basis of this first ground.

Independent claim 13 further includes the following limitations:

- a first projecting edge which connects with said first end of said straight bottom edge and projects obliquely from said first end of said straight bottom edge, and
- with the second projecting edge projecting obliquely from said second end of said straight bottom edge.

It is respectfully submitted that independent claim 13 is allowable over Frisch on the basis of this second ground.

{18450.DOC} (Amendment After Final--page 18 of 20)

10/549,394

B.5.d. Independent claim 14

As to independent claim 14, the grounds of argument as to independent claim 13 are relevant. It is thus respectfully submitted that claim 14 is allowable.

B.6. Section 7 of the Office Action

In section 7 of the Office Action, it was stated that applicant's arguments have been considered but are now moot.

B.7. Section 8 of the Office Action

In section 8 of the Office Action, it was stated that applicant's amendment necessitated the new grounds of rejection.

C. Housekeeping mattersC.1. Period For Reply

A shortened statutory period for reply was set to expire three months from the Office Action of April 20, 2007. April 20, 2007 plus three months is July 20, 2007. This Amendment and Remarks is being filed on or before Friday, July 20, 2007.

C.2. Status

The Office Action was made final.

C.3. Disposition Of Claims

Claims 6-14 are pending.

C.4. Application Papers

The drawings filed on September 14, 2005 were approved in the Office Action of August 2, 2006. This is very much appreciated.

{18450.DOC} (Amendment After Final--page 19 of 20)

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JUL 10 2007 10/549,394

C.5. Priority under 35 U.S.C. §§ 119 and 120

As indicated on the filing receipt, this case is a 371 of PCT/JP04/04223 filed March 26, 2004.

This case also claims foreign priority from Japanese patent application number 2003-109446 filed April 14, 2003. If required, acknowledgement of such claim would be appreciated in box 12 on the Office Action Summary.

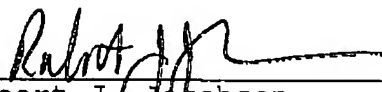
C.6. Attachments

Applicant filed a first PTO-1449 form in this case on October 13, 2005. This form has been signed and all of listings of references on the form have been initialed. This is very much appreciated.

Applicant has filed a second PTO-1449 form on June 25, 2007. Consideration of the prior art reference listed on this form would be very much appreciated.

D. Summary

The Examiner is respectfully invited to make contact with the undersigned by telephone if such would advance prosecution of this case.

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(18450.DOC) (Amendment After Final--page 20 of 20)